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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,275

07/25/2006

Kazuo Minemura

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4912

32294

7590

06/16/2009

SQUIRE, SANDERS & DEMPSEY L.L.P.

8000 TOWERS CRESCENT DRIVE

14TH FLOOR

VIENNA, VA 22182-6212

EXAMINER

ROE, JESSEE RANDALL

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

06/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,275	Applicant(s) MINEMURA ET AL.	
	Examiner Jessee Roe	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
4a) Of the above claim(s) 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>15 January 2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Claims

Claims 1-3 and 5-9, drawn to a method for treating a surface of a metal material by applying amino resin to the surface of the metal material, are currently under examination. Because the Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election of claims 1-3 and 5-9 has been treated as an election without traverse (MPEP §818.03(a)). Claim 4 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method for treating a surface of a metal material by not applying amino resin to the surface of the metal material.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furono (US 4,504,324).

In regards to claims 1 and 5, Furono ('324) discloses a method of removing a spontaneously formed oxide film (passive film) on the surface of an aluminum alloy plate by heating in a 7% aqueous sodium hydroxide solution at 55°C for 3 minutes; dipping the aluminum alloy into commercial reagent grade nitric acid; electrodepositing by using an electrodeposition bath of water soluble acryl melamine resin, which would read on the melamine resin as recited in claim 5, and passing a direct current to the bath at 30°C for 2.5 minutes; and then baking for 30 minutes at 190°C (Comparative Example 1). Alternatively, in Comparative Example 1, Furono ('324) does not specify that the nitric acid concentration would be high enough to bring the aluminum alloy plate to a passive state (col. 6, lines 39-55). However, it would have been obvious to one of ordinary skill in the art to modify the nitric acid concentration in order to achieve the desired aluminum surface passivity. MPEP 2144.05 II.

With respect to the amended recitation "[w]herein the removing comprises heating together said metal material and an amino resin.", the Examiner notes that this amendment would not change the scope of the rejection since the plate would be in the resin when the current is applied to the bath (thus heating the plate) and then baked at 190°C (where the resin has been deposited on the plate).

In regards to claims 2, Furono ('324) discloses baking at 190°C (which would occur in a furnace or oven) after electrodeposition (Comparative Example 1).

In regards to claim 3, Furono ('324) discloses an electrodeposition bath of water soluble acryl melamine resin (solvent) (Comparative Example 1).

In regards to claim 6-7, Furono ('324) discloses a coated aluminum plate (compound layer) after baking at 190°C (Comparative Example 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furono (US 4,504,324) as applied to claims 6-7 above, and further in view of Gredelj et al. (Characterization of aluminum surfaces with and without plasma nitriding by X-ray photoelectron spectroscopy).

In regards to claims 8-9, Furono ('324) discloses a method of removing a spontaneously formed oxide film (passive film) on the surface of an aluminum (abstract) or aluminum alloy plate as shown above, but Furono ('324) does not specify nitriding or carburizing.

Gredelj et al. discloses that plasma nitriding can be used for surface hardening aluminum if the oxide layer is removed (pg. 240, col. 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply plasma nitriding, as disclosed by Gredelj et al., to

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the aluminum having a removed oxide film, as disclosed by Furono ('324), in order to successfully harden the surface of the aluminum, as disclosed by Gredelj et al. (pg. 240, col. 2).

Response to Arguments

Applicant's arguments filed 16 December 2008 have been fully considered but they are not persuasive.

First, the Applicant primarily argues that assuming that one of ordinary skill in the art would conclude that the removal of the film by heating recited in claim 1 could be satisfied by placing the metal into a warm liquid bath, The heating does not occur in the presence of the amino resin as recited in claim. The Applicant further argues that Furono ('324) discloses a series of treatments in which the metal material undergoes a warmed basic bath to remove an oxide layer without the presence of the acryl melamine layer and the acryl melamine layer is later deposited on to the metal material, well after the removal of the passive film of the oxide layer identified in the Office Action as the passive film.

In response, the Examiner notes Furono ('324) discloses that a current is passed through the water soluble acryl melamine resin which the aluminum plate is place in for 2.5 minutes and the application of this current constitutes heating of the aluminum plate. Furono ('324) further discloses baking at 190°C for 30 minutes (which also constitutes heating) after the resin has been applied to the surface. Since Furono ('324) discloses

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the same steps as the instant invention, removal of a passive film is expected. MPEP 2112.01 I.

Second, the Applicant primarily argues that it would not be obvious to try to combine or modify Furono ('324) with the description of Gredelj to have a step of plasma nitriding.

In response, the Examiner notes that Furono ('324) and Gredelj are both drawn to surface treatment of aluminum articles. Furono ('324) clearly discloses the removal of an oxide film and Gredelj clearly teaches that plasma nitriding can be used for surface hardening aluminum if the oxide layer is removed, which is the case in Furono ('324) and therefore the combination of these references would be obvious.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571)272-5938. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

JR